

WHAT IS CLAIMED IS:

- Sub A1
1. A selective cytotoxic reagent comprising an onc protein having measurable ribonucleolytic activity joined to an antibody directed against a surface marker expressed by a B cell.
 2. The reagent of claim 1, wherein the onc protein has the amino acid sequence of SEQ ID NO:1.
 3. The reagent of claim 1, wherein the onc protein is produced by recombinant means.
 4. The reagent of claim 3, wherein the onc protein has the amino acid sequence of SEQ ID NO:3
 5. The reagent of claim 3, wherein the onc protein is encoded by the nucleic acid molecule identified as SEQ ID NO:2.
 6. The reagent of claim 1, wherein the antibody is a monoclonal antibody.
 7. The reagent of claim 6, wherein the monoclonal antibody is humanized.
 8. The reagent of claim 7, wherein the monoclonal antibody is a single chain antibody.
 9. The reagent of claim 1, wherein the antibody is specific for B cell lymphomas.
 10. The reagent of claim 9, wherein the antibody is selected from the group consisting of RFB4 and LL2.

- 1 11. The reagent of claim 1, wherein the surface marker is CD22.
- 1 12. The reagent of claim 1, wherein the surface marker is CD74.
- 1 13. The reagent of claim 12, wherein the antibody is LL1.
- 1 14. The reagent of claim 1, wherein the onc protein is conjugated to the
2 antibody through recombinant fusion.
- 1 15. A nucleic acid sequence encoding the reagent of claim 1.
- 1 16. A pharmaceutical composition comprising a selective cytotoxic
2 reagent comprising an onc protein having measurable ribonucleolytic activity joined to an
3 antibody directed against a cell surface marker expressed by a B cell together with a
4 pharmaceutically acceptable carrier.
- 1 17. The pharmaceutical composition of claim 16, wherein the onc
2 protein has the amino acid sequence of SEQ ID NO:1.
- 1 18. The pharmaceutical composition of claim 16, wherein the onc
2 protein is produced by recombinant means.
- 1 19. The pharmaceutical composition of claim 18, wherein the onc
2 protein has the amino acid sequence of SEQ ID NO:3.
- 1 20. The pharmaceutical composition of claim 18, wherein the onc
2 protein is encoded by the nucleic acid molecule identified as SEQ ID NO:2.
- 1 21. The pharmaceutical composition of claim 16, wherein the onc
2 protein is conjugated to the antibody through recombinant means.

1 22. The pharmaceutical composition of claim 16, wherein the antibody
2 is a monoclonal antibody.

1 23. The pharmaceutical composition of claim 22, wherein the
2 monoclonal antibody is humanized.

1 24. The pharmaceutical composition of claim 23, wherein the
2 monoclonal antibody is a single chain antibody.

1 25. The pharmaceutical composition of claim 16, wherein the antibody
2 is directed against a surface marker present on B cell lymphomas.

1 26. The pharmaceutical composition of claim 25, wherein the antibody
2 is selected from the group consisting of RFB4, LL1 and LL2.

1 27. A method of killing malignant B cells comprising contacting cells
2 to be killed with a selective cytotoxic reagent comprising an onc protein having
3 measurable ribonucleolytic activity joined to an antibody directed against a cell surface
4 marker on B cells.

5 28. The method of claim 27, wherein the onc protein has the amino acid
6 sequence of SEQ ID NO:1.

1 29. The method of claim 27, wherein the onc protein is produced by
2 recombinant means.

1 30. The method of claim 29, wherein the onc protein has the amino acid
2 sequence of SEQ ID NO:3.

1 31. The method of claim 29, wherein the onc protein is encoded by a
2 nucleic acid molecule identified as SEQ ID NO:2.

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